APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/273,673	03/22/1999	JOHN C. DOYLE	DOYLE-P99-1	7424

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EXAMINER
GRAHAM, CLEMENT B

ART UNIT	PAPER NUMBER
3628	

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)
Office Action Summary		09/273,673	DOYLE, JOHN C.
		Examiner	Art Unit
		Clement B. Graham	3628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*11 April 2006*</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>*1-17 and 20*</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>*1-17 and 20*</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____.

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1   Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

2.   Claims 1-17, 20, remained pending.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patent ability shall not be negatived by the manner in which the invention was made.

3.   Claims 1- 17, and 20, are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner U.S Patent 4, 903, 201) in view of Daughtery U.S. Pub" 2001/0056392 in view of Mosler et al U.S Patent 6, 304, 858.

As per claims 1, 3,   Wagner discloses a method for using a digital electrical computer in futures contract clearing(see column 8 lines 44-55, 10-16) the method including the steps of:

providing a clearing computer system including a digital electrical "signals" computer having a processor(see column 3 lines 4-15 and column7 lines 12-67) electrically connected to an input device for receiving input information (see column 18 lines 49-67 and column 19 lines 1-10)and producing input electrical signals representing the input information, to an output device for producing a display corresponding to output electrical signals, and to a printer device for printing corresponding to the output electrical signals (see column 9 lines 50-67 and column 10 lines 1-15) and programming the processor to form circuitry in the processor to control the computer system in signal processing responsive to the input electrical signals to produce other electrical signals including the output electrical signals, in data processing substeps of:

identification of a buyer of the futures contract (see column 8 lines 64-67)

identification of a seller of the futures contract, a trade price for the futures contract, and a settlement price for the futures contract (see column 10 lines 16-40) specifying an amount of money a clearing entity must transfer between the buyer and the seller for clearing the futures contract by applying the actual tick value to a difference between the trade price data and the settlement price (see column 11 line 7 column 12 line 60) and triggering a computer-assisted transfer of the amount of money; and futures contract. (see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40).

Wagner fail to explicitly teach receiving, as a portion of the input information, a base tick value for a futures contract, an expiration time for the futures contract, and computing a discount factor from the settlement price and determining an actual tick value by applying the discount factor to the base tick value.

However Daughtery discloses a forward rate agreement futures contract is an equivalent of an option contract and a variety of other financial instruments or contracts (see page 12 paragraph 0177-0239) and receiving, as a portion of the input information, a base tick value for a convex futures contract (see page 9 paragraph 0128 lines 3-8 also tick "variable" (paragraph 128) "dollar amount tick and tick data" and a definition of tick as dollar amount price movement" (see paragraph 0130) and an expiration time for the forward rate agreement futures contract.(see page 9 paragraph 0127 lines 4-5) and option financial instrument produced by the process of: receiving data representative of the particular asset, an option type, an exercise price for the particular asset, the current price of the particular asset, the historic price volatility of the particular asset and the margin requirement for the particular asset; generating an implied time using an option pricing algorithm and the option type, the exercise price for the particular asset, the current price of the particular asset, the historic price volatility of the particular asset and the margin requirement for the particular asset; and generating an option premium producing the option financial instrument using an expiring option

premium and the implied time.(see column paragraph 0128-0129, 0161, 0031
and claims 12-13).

Therefore it would have been obvious to one of ordinary skill in the art at the
time the invention was made to modify the teachings of Wagner and Daughtery
in order to introduce increase efficiencies and greater capabilities to produce
greater profit opportunities in the operation of automated computerized futures
trading systems.

Wagner and Daughtery fail to explicitly teach convex.

However Ginsberg discloses calculated as a convex combination for two
nearest spot rates.(see column 9 lines 43-52 and column 4 lines 39-67 and
column 5 lines 1-5).

Therefore it would have been obvious to one of ordinary skill in the art at the
time the invention was made to modify the teachings of Daughtery and Ginsberg
to include convex in order to managing and determine income indices for use in
accurately gauging interest rate profiles in real time.
Further industry practitioners in futures and options trading processing
understand that a "tick" (is) ' a minimum change in price up or down (Barron's
Dictionary of finance and investment terms fifth edition, page 647).

As per claim 2, Wagner discloses wherein the substep of computing a
discount factor includes the substep of applying a bootstrap method to the
settlement price. (see column 3 lines 4-15 and column7 lines 12-67and see
column 8 lines 64-67and see column 10 lines 16-40).
As per claim4, Wagner discloses further including the substeps of: generating a
cumulative price quote for a group including another futures contract and
displaying the cumulative price quote on the display device to convey information
for use in trading the group. (see column 3 lines 4-15 and column7 lines 12-
67and see column 8 lines 64-67and see column 10 lines 16-40).

As per claim 5, Wagner discloses wherein:
generating a price for an floor option on the convex futures contract displaying
the price for the floor option on the display device to convey information for use in

trading the floor option. (see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40).

As per claim 6, Wagner discloses wherein the step of generating a price includes accounting for a limit, the limit from the group consisting of a cap, a floor, or both, in generating the price. (see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40).

As per claim 7, Wagner discloses further including:
communicating data representing the convex futures contract from the clearing computer system to a second digital electrical computer system using the data in computing a price for an over the-Counter option.
(see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40).

As per claim 8, Wagner discloses wherein the forming an interest rate swap including the convex futures contract includes, computing interest payments for the interest rate swap with the second computer. (see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40).

As per claim 9, Wagner discloses further including:
communicating data representing the convex futures contract from the clearing computer system to an other digital electrical computer system (see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40) and computing, with the other digital electrical computer system, a zero coupon libor curve in real time and applying the zero coupon libor curve to a portfolio of interest rate derivatives to create forward rates, expected cash flows, and present value of the cash flows for risk management manipulation of the portfolio. (see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40).

As per claim 10, Wagner discloses further including:

calculating, with the other digital electrical computer system, an exposure indicia of movement in the curve. (see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40).

As per claim 11, Wagner discloses further including:
publishing daily quotes of the discount factor by clearing digital electrical computer system to provide information for use in trading the convex futures contract. (see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40).

As per claim 12, Wagner discloses wherein:
publishing trading discount factor data in real time on a display board electronically connected to the clearing digital electrical computer system to provide information for use in trading the convex futures contract. (see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40).

As per claim 13, Wagner discloses wherein:
conveying trading discount factor data in real time to a plurality of vendor computers electrically connected to the clearing digital electrical computer system to provide information for use in trading the convex futures contract. (see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40).

As per claim 14, Wagner discloses wherein:
conveying trading discount factor data in real time to a plurality of broker computers electrically connected to the clearing digital electrical computer system to provide information for use in trading the convex futures contract. (see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40).

As per claim 15, Wagner discloses wherein:
conveying trading discount factor data in real time to a plurality of customer computers electrically connected to the clearing digital electrical computer system to provide information for use in trading the convex futures contract (see

column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40).and in response to a trade triggered from one of the customer computers, generating confirmation statement at the clearing digital electrical computer to document the trade triggered from one of the customer computers. (see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40).

As per claims 16, 20, Wagner discloses a method for using a digital electrical computer in convex ¹futures contract clearing, the method including the steps of:

providing a clearing computer system including a digital electrical "signals" computer having a processor electrically connected to an input device for receiving input information and producing input electrical signals representing the input information, to an output device for producing a display corresponding to output electrical signals, and to a printer device for printing corresponding to the output electrical signals see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40) and programming the processor to form circuitry in the processor to control the computer system in signal processing responsive to the input electrical signals to produce other electrical signals including the output electrical signals, in data processing substeps of:

identification of a buyer of the convex futures contract (see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40)

identification of a seller of the convex futures contract, a trade price for the convex futures contract, and a settlement price for the convex futures contract (see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40)

specifying an amount of money a clearing entity must transfer between the buyer and the seller for clearing the convex futures contract by applying the actual tick value to a difference between the trade price data and the settlement price and

triggering a computer-assisted transfer of the amount of money; and futures contract (see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40) and generating at the printing device documentation including the amount of money specified by the clearing computer system to be transferred between the buyer and seller in the convex futures contract. (see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40).

Wagner fail to explicitly teach receiving, as a portion of the input information, a base tick value for a convex futures contract, an expiration time for the convex futures contract, and computing a discount factor from the settlement price and determining an actual tick value by applying the discount factor to the base tick value.

However Daughtery discloses a forward rate agreement futures contract is an equivalent of an option contract and a variety of other financial instruments or contracts (see page 12 paragraph 0177-0239) and receiving, as a portion of the input information, a base tick value for a convex futures contract (see page 9 paragraph 0128 lines 3-8 also tick "variable" (paragraph 128) "dollar amount tick and tick data" and a definition of tick as dollar amount price movement" (see paragraph 0130) and an expiration time for the forward rate agreement futures contract.(see page 9 paragraph 0127 lines 4-5) and option financial instrument produced by the process of: receiving data representative of the particular asset, an option type, an exercise price for the particular asset, the current price of the particular asset, the historic price volatility of the particular asset and the margin requirement for the particular asset; generating an implied time using an option pricing algorithm and the option type, the exercise price for the particular asset, the current price of the particular asset, the historic price volatility of the particular asset and the margin requirement for the particular asset; and generating an option premium producing the option financial instrument using an expiring option premium and the implied time.(see column paragraph 0128-0129, 0161, 0031 and claims 12-13).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Wagner and Daughtery in order to introduce increase efficiencies and greater capabilities to produce greater profit opportunities in the operation of automated computerized futures trading systems.

Wagner and Daughtery fail to explicitly teach convex.

However Ginsberg discloses calculated as a convex combination for two nearest spot rates.(see column 9 lines 43-52 and column 4 lines 39-67 and column 5 lines 1-5).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Daughtery and Ginsberg to include convex in order to managing and determine income indices for use in accurately gauging interest rate profiles in real time.

Further industry practitioners in futures and options trading processing understand that a "tick" (is) ' a minimum change in price up or down (Barron's Dictionary of finance and investment terms fifth edition, page 647).

As per claim 17, Wagner discloses wherein the substep of computing a discount factor includes applying a bootstrap method to the settlement price(see column 3 lines 4-15 and column7 lines 12-67and see column 8 lines 64-67and see column 10 lines 16-40).

Conclusion

Response to Arguments

4.   Applicant 's arguments filed on 04/11/2006 has been considered but they are moot in view of new grounds of rejections.

5.   Any inquiry concerning this communication or earlier communications from the   examiner should be directed to Clement B Graham whose telephone number is 703-305-1874. The examiner can normally be reached on 7am to 5pm.

8.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clement B Graham whose telephone number is 703-305-1874. The examiner can normally be reached on 7am to 5pm.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung S. Sough can be reached on 703-308-0505. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-0040 for regular communications and 703-305-0040 for After Final communications.
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

CG
MAY 11, 2006

FRANTZY POINVIL
PRIMARY EXAMINER
AU 3628